National Computing Facilities Foundation

BiG Grid Computing and Data Facilities
Continuous application

Content

1 Introduction

Access to advanced ICT research infrastructures is crucial to scientific research communities. Historically, NCF has facilitated access to high-end computing equipment (national supercomputer and national compute cluster). The BiG Grid project (led by partners NCF, Nikhef and NBIC) aims to set up a grid infrastructure for scientific research. This research infrastructure contains compute clusters, data storage, combined with specific middleware and software to enable research which needs more than just raw computing power or data storage.

The BiG Grid project is a collaboration between NCF, Nikhef and NBIC, and enables access to grid infrastructures for scientific research in the Netherlands. Through this, the BiG Grid project aims to facilitate e-science in many scientific disciplines.

2 Aim

This program aims to facilitate scientific research through access to advanced ICT research infrastructures. Specifically, this program grants access to the grid infrastructure as set up by the BiG Grid project, and is typically meant for those researchers who are conducting e-science in their research.

Researchers can apply for access to grid infrastructures like compute clusters (computing time), data storage facilities, supported by grid middleware and software. Human support can be applied for as well, but is not discussed in this program brochure.

3 Guidelines for applicants

3.1 Who can apply

Grants can be applied for by researchers of organisations which are eligible for subsidy from NWO, like Dutch universities or institutes under the umbrella of NWO or KNAW. Other institutes, for which arrangements need to be in place, may be eligible as well.

In BiG Grid and like infrastructures, users are grouped in 'Communities', also known as 'Virtual Organisations' (VOs) since they are frequently composed of people that are geographically distributed but share a common research topic. These communities can be large and long-lived, or very small (even an individual researcher) and short lived. The important thing is that access to resources is granted based on this community "VO" membership. There may already be such a Community working on topics closely related to your proposed research, either in the Netherlands or abroad, which already has access to BiG Grid. If a researcher who asks for access to the infrastructure as described in this program, is part of such a recognised Community, access to the grid can be arranged very quickly via the community itself.

In special cases, others may be eligible too for access to the infrastructure for conducting scientific research. This may apply to resource sharing arrangements in European frameworks or to commercial organisations. Commercial organisations will not be able to receive grants, but may use the infrastructure on a commercial basis.

3.2 What can be applied for

In the BiG Grid project, grants can be asked for to access the grid infrastructure as set up in the BiG Grid project. This applies to access to compute clusters, access to data storage systems and usage of middleware and specific available software.

Access to compute clusters
BiG Grid arranges access to compute clusters which are accessible through BiG Grid and/or NCF. These are compute clusters which have been acquired with BiG Grid and/or NCF funds.

Access to data storage facilities
BiG Grid arranges access to data storage facilities which are accessible through BiG Grid and/or NCF. These are data storage facilities which have been acquired with BiG Grid and/or NCF funds.

The following types of applications are distinguished:

Pilot projects
Pilot projects are small projects, for which access to the required infrastructures can be arranged quickly. They are typically meant for initial testing and for determination of the most suited infrastructure. Pilot projects are small, and are typically in the range of 5000 core hours[1] and 10 TB of data storage.

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[1] A processor (CPU) more and more consists of more than one so-called core. In this context, we will use a core as the smallest entity in the processor which can fully execute user jobs.

Individual researchers who do not yet belong to a VO typically apply for pilot projects. These applications will be contained in a special pilot VO.

The results of a pilot project can typically be used to underpin a larger request for using more of the infrastructure facilities.

Individual projects
Normal individual projects will initially be refereed in the BiG Grid Executive Team (ET), typically by determining the requested usage of the resources to proposed work to be carried out in the proposal. If needed, the ET will consult independent referees to help judging the proposal. Individual projects are not a priori bound by certain amounts of computing time or data storage capacity.

In most of the cases, it is expected that researchers who apply for individual projects, have been organised in a VO.

VO projects
The VO project application process is intended for those users that are already member of an established Grid Virtual Organisation in, for example, partner e-Infrastructures, and would like to add BiG Grid resources to further the goals of the ongoing VO, or to enable the applicant to do more work within the context of his existing VO membership.

In these cases, the Virtual Organisation Manager as well as the successful applicant enter into a relationship with BiG Grid. The applicant will be responsible for the scientific reporting, and the VO Manager will be operationally responsible, as defined in the Grid Security Policy and the VO Registration Security and Membership Management Policies.

Units
Each application needs to specify the amount of computing time needed. The unit used is core hour, which is equivalent to using one CPU core for one hour.

Data storage units need to be given in TB.

3.3   When can applications be submitted

Applications can be submitted during the year.

3.4   Drawing up an application

The application has to be prepared by filling out an application form. This form can be downloaded from both the BiG Grid (www.biggrid.nl) as well as from the NWO website.

3.5   Specific conditions

The BiG Grid project is funded by the Netherlands Organisation for Scientific Research (NWO). Therefore, the general terms and conditions for NWO grants apply to grants for using the BiG Grid infrastructure. These terms and conditions can be found at General Terms and Conditions NWO.

The following additional rules apply to BiG Grid grants:

The "system" is defined as the collection of BiG Grid computing and data storage resources, including software and middleware.

The "user" or "applicant" is the person who has accepted the BiG Grid grant for access to the system, including the persons who will be granted access under the responsibility of the user. The user has to comply to the following rules:
- The user will only use the system for the execution of the proposal, for which access has been granted;
- The user will not try to get access to or to use data files and software on the system which do not belong to the user or for which no access has been granted;
- The user will conform to rules as set by the owners of the BiG Grid resources;
- The user will report to the owners of the BiG Grid resources any errors in (system)software, middleware, etc., and also on general malfunctioning of the system;
- The user will be held responsible for any misuse of his/her account;
- The user will protect his/her passwords against possible misuse;
- The user is responsible for the consequences of exceeding the granted computing time and/or disk storage;
- The BiG Grid project and the owners of the BiG Grid system do not accept any responsibility for damage to the user as a result of usage of the system, or for damage as a result of possible errors in the system.

In publications and presentations, the user will clearly acknowledge the fact that his/her research has been made possible by a grant of the BiG Grid project for access to the system.

The user will use the following quote for this:

"This work was sponsored by the BiG Grid project for the use of the computing and storage facilities, with financial support from the Nederlandse Organisatie voor Wetenschappelijk Onderzoek (Netherlands Organisation for Scientific Research, NWO").

User Agreement Form BiG Grid Resources
After granting, but before actually accessing the resources, the user has to enter into an agreement with NCF[2] on the actual usage of the resources of BiG Grid. This "User Agreement Form BiG Grid Resources" will be attached to the granting letter. The applicant will have to fill out and sign the User Agreement Form in twofold and send it to NCF. The User Agreement Form can also be found on xxxxxx

The BiG Grid project is using the same policies as described in the Grid Acceptable Use Policy, which is also used in EGEE and DEISA. More information can be found on http://www.biggrid.nl/en/big-grid-infrastructure/policies/aup

Report
At least once a year, the user has to report on the progress of his/her project, which includes an overview of the actual usage of the system. The BiG Grid project will provide a template report (Report Template BiG Grid Resources) for this, which must be applied.

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[2] Usually, the use enters into a User Agreement with the owner of the resources. Since the resources are owned by SARA, Nikhef and possibly others, it has been chosen to use NCF as the central point for the User Agreements, which holds for all resources which have been purchased with BiG Grid funding.

This report and scientific papers which are a result of the project will need to be uploaded into the NWO Iris system.

3.6   Submitting an application

Applications can only be done through the NWO system Iris. You need to have an access code to Iris, which can be applied for at the website for NWO Iris. After that, you can log on to the Iris system so that you can upload your application form (pdf) into Iris.

All information can be found on the NWO Iris website (www.iris.nwo.nl).

For technical questions regarding the electronic submission of applications, please contact the Iris helpdesk.

4 Assessment procedure

4.1 Procedure

Currently, the BiG Grid Executive Team (ET) serves as the committee which handles requests for access to the BiG Grid infrastructure, if needed through consulting independent referees. The BiG Grid management has mandated the ET to do so, but will be informed on requests on a regular basis. This procedure has been chosen since the BiG Grid infrastructure is in the early process of being set up. Over time, the procedure will evolve into a peer review process.

In case the committee has asked for independent referee reports, these reports will always be sent to the applicant, if needed with a request for rebuttal by the applicant.

The committee will always study annual reports on the progress of the research outlined in the granted proposals, including the usage of the BiG Grid infrastructure resources.

In case of large proposals, and if needed, applicants may be asked to clarify their proposal to the committee.

The applicant will receive notification of the committee decision on granting his or her application. This will be done in a granting letter. Grants are valid for one year and are subject to the criteria as given under 4.2. The committee meets on a bi-weekly basis.

Together with the granting letter, the following forms are included, which have to be filled out and need to be sent to NCF.
 – Response form to NCF, in which the applicant accepts the subsidy with the criteria and restrictions;
 – User Agreement with NCF;
 – User form for NCF.

After NCF received these forms, actual access to the BiG Grid infrastructure will be arranged.

4.2 Criteria

The committee uses the following criteria for access:
 – Small requests (less than 5000 core hours and/ore 10 TB of data storage) will be granted access as pilot projects, with the restriction that straightforward computing time requests may be forwarded to the regular NCF compute facilities Huygens and/or Lisa;
 – Larger projects will be discussed within the committee. If needed, independent referees will be asked for their opinion;
 – For larger than pilot projects, the committee considers the following criteria:
   – Can the project be run on resources which are locally available to the user?
   – Does the applicant belong to a VO which is already using the BiG Grid infrastructure?
   – Apart from CPU time and/or storage, will the request need specific middleware/software? If no specific middleware or software is used, then the applicant may be forwarded to the regular NCF compute facilities Huygens and/or Lisa;

4.3   Composition of committee

The committee is composed of the members of the BiG Grid Executive Team:

Chairman:
 – Drs. A.J. van Rijn

Members:
 – Dr. A. Benabdelkader
 – Dr. ir. A. Berg
 – Dr. M. Bouwhuis
 – Dr. M. van Driel
 – Dr. D. Groep
 – Dr. ir. P.H. Michielse
 – Dr. J. Templon

5 Other information

5.1 Contact

Contactperson

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